

1998 Wood processor Report

Including Import and Export Information

Compiled from 1998 Woodprocessor
Reports, pursuant to
12 MRSA c 805, sub-c 5, §8884
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What is in this report?

This report shows the volume of wood that was processed by Maine mills, imported into Maine, and exported from Maine.

- Tables display wood flow details for: Sawlogs, Pulpwood, Biomass Chips, and Imports and Exports.
- Sawlogs and Pulpwood figures appear in a species-by-county matrix.
- Biomass figures appear by county.
- Import and export figures are tallied by species only.

How was this information collected?

The Maine Forest Service collects information on woodflow through the annual Wood processor Report. The information contained in this report is based upon 1998 woodprocessor reporting forms.

For 1998, reports were recieved from 260 primary processing mills, 242 loggers and brokers who may have exported, and from 59 mills that burn some form of wood for energy. These businesses report wood volumes processed by species and county of origin.

What is the purpose of the Wood processor Report?

Each year, the Maine Forest Service collects information from Maine primary wood processors regarding the volume of wood processed in Maine. Information is also collected for volumes imported into Maine or exported from Maine. Volume information contained in these reports is confidential and by law shall not be made public except that summary reports may be published using aggregated data which does not reveal the activities of an individual person or firm (under provisions of 12 MRSA c805, sub-c 5, sub-sec. 8884 "Forest Landowner and Wood processor Reporting Requirements"). Information in this database is tabulated and used for additional purposes as well.

Notes on reading this report:

This wood processor report is arranged so that you can look up volumes by county, imports, exports, and state totals. Maine's sixteen counties are:

| | | | |
|---------------------|-----------------|--------------------|-------------------|
| <i>Androscoggin</i> | <i>Hancock</i> | <i>Oxford</i> | <i>Somerset</i> |
| <i>Aroostook</i> | <i>Kennebec</i> | <i>Penobscot</i> | <i>Waldo</i> |
| <i>Cumberland</i> | <i>Knox</i> | <i>Piscataquis</i> | <i>Washington</i> |
| <i>Franklin</i> | <i>Lincoln</i> | <i>Sagadahoc</i> | <i>York</i> |

The information provided for each county is organized into three (3) major product sections

| Product | *Unit of Measure |
|---------------|------------------|
| Sawlogs | MBF |
| Pulpwood | Cords |
| Biomass Chips | Green Tons |

* Note: Volumes also appear as cords (on summary page) for the purpose of having a common measurement unit for comparison and for calculating grand totals across product type

Wood flow is tallied by: Sawlogs, Pulpwood, and Biomass Chips.

Sawlog Species in this report

| | |
|---------------------------------|------------------------|
| Softwood: Spruce and Fir | Hardwood: Beech |
| White and Red Pine | White Birch |
| Hemlock | Yellow Birch |
| Cedar | Sugar Maple |
| Other Softwood | Red (soft) Maple |
| | Oak (all) |
| | Ash (all) |
| | Aspen |
| | Other Hardwood |

Pulpwood Species in this report

| | |
|---------------------------------|------------------------|
| Softwood: Spruce and Fir | Hardwood: Aspen |
| White and Red Pine | Other Hardwood |
| Hemlock | |
| Cedar | |
| Other Softwood | |

Biomass Chips Species in this report

All Species

Definitions and Notes

1. Biomass Chips:

Produced in the woods using entire tree, stem or bole, branches and tops. These chips usually go to wood to energy facilities; however they are suitable for sludge composting, play ground padding, and mulch.

2. Bole/Stem Chips:

Produced in the woods using portable chippers and are made from the lower portion of tree minus limbs and tops. These chips may not be bark free but are suitable for use in pulp mills. There are some stationary tree-length chipping operations.

3. Cords (cbs):

A "cord" is a unit of measure of wood products 4 feet wide, 4 feet high, and 8 feet long, or its equivalent, containing 128 cubic feet when the wood is ranked and well stowed. Any voids that will accommodate a stick, log or bolt of average dimensions to those in the pile shall be deducted from the measured volume.

4. Hog Fuel:

Any woody residue from the woods or mills (such as sawdust, bark, and shavings) and can be biomass chips measured in either green or dry (bone dry) tons.

5. Mill residues:

Clean, pulp quality chips, made from slabs and edgings at sawmills, etc. Measured green tons, mill residues come from the sawlog component of the volume reported and therefore are not additional harvest volumes figures. They do make up a part of the volumes of fiber used to make pulp and should be added to the volume of pulpwood to get the total amount of wood used to make paper.

6. Pulpwood:

Includes tree length; long length; 4',8',16'; bole or stem chips converted to cords for comparison with previous figure.

7. Sawlogs:

Include sawlogs, studwood, palletwood, boltwood, and veneer.

8. Thousand Board Feet (mbf):

One thousand board feet. One board foot is a piece of wood 1"thick by 12" long by 12" wide.

Interpreting Harvest, Export, Import, and Processed by the Maine Forest Products Industry

Maine wood processed

wood that was harvested in Maine and utilized by a Maine primary processing facility.

Exported from Maine without processing

wood that is harvested in Maine and exported out of state without primary processing by a Maine mill.

Imported from out of state

wood that is imported from out of state (not harvested in Maine) and primary processed by a Maine mill.

Total processed by Maine Forest Products Industry

amount of wood that was primary processed in Maine regardless of origin.

Pulpwood figures include pulp-quality bole or stem chips that are produced by many of Maine's whole tree chipper operators. These chippers also produce biomass which is burned for energy by many mills and wood-fired electrical generating facilities.

Conversions:

1 MBF = 2 cords 1 cord = 2.5 green tons

Sawlogs

Wood flow in Maine as Reported to the Maine Forest Service (Converted to MBF)

| County | Spruce and Fir | White and Red Pine | Hemlock | Cedar | Other Softwood | Total Softwood | Beech | White Birch | Yellow Birch | Sugar Maple | Red Maple | Oak | Ash | Aspen | Other Hardwood | Total Hardwood | Total Sawlogs |
|-----------------------------------------------------------|-------------------|--------------------------|---------|--------|-------------------|-------------------|--------|----------------|-----------------|----------------|-----------|--------|--------|---------|-------------------|-------------------|------------------|
| Androscoggin | 59 | 8,838 | 1,656 | 80 | 0 | 10,633 | 255 | 887 | 83 | 394 | 236 | 175 | 63 | 66 | 228 | 2,387 | 13,020 |
| Aroostook | 128,556 | 2,717 | 12,636 | 17,185 | 1,939 | 163,033 | 718 | 2,024 | 2,179 | 5,227 | 3,756 | 69 | 1,017 | 77,207 | 1,696 | 93,893 | 256,926 |
| Cumberland | 63 | 27,477 | 3,194 | 0 | 0 | 30,734 | 233 | 234 | 44 | 395 | 164 | 427 | 59 | 4 | 270 | 1,830 | 32,564 |
| Franklin | 10,476 | 40,173 | 989 | 114 | 4 | 51,756 | 1,460 | 6,710 | 4,328 | 8,243 | 3,741 | 1,712 | 1,472 | 419 | 475 | 28,560 | 80,316 |
| Hancock | 22,230 | 5,601 | 6,435 | 578 | 23 | 34,867 | 107 | 2,175 | 209 | 732 | 95 | 96 | 330 | 564 | 9 | 4,317 | 39,184 |
| Kennebec | 1,548 | 19,339 | 3,169 | 130 | 14 | 24,200 | 296 | 2,064 | 628 | 369 | 514 | 982 | 437 | 345 | 75 | 5,710 | 29,910 |
| Knox | 479 | 3,372 | 1,267 | 4 | 12 | 5,134 | 58 | 429 | 64 | 71 | 65 | 221 | 30 | 55 | 0 | 993 | 6,127 |
| Lincoln | 83 | 6,955 | 1,049 | 74 | 0 | 8,161 | 1 | 154 | 50 | 1 | 4 | 174 | 9 | 356 | 0 | 749 | 8,910 |
| Oxford | 11,604 | 49,160 | 3,435 | 40 | 10 | 64,249 | 2,269 | 5,924 | 1,743 | 2,206 | 2,024 | 3,119 | 1,371 | 129 | 2,127 | 20,912 | 85,161 |
| Penobscot | 70,178 | 20,807 | 45,487 | 5,748 | 193 | 142,413 | 2,440 | 4,192 | 1,083 | 2,799 | 1,856 | 323 | 1,342 | 22,079 | 394 | 36,508 | 178,921 |
| Piscataquis | 87,450 | 7,423 | 7,887 | 1,105 | 124 | 103,989 | 1,549 | 4,431 | 2,044 | 5,681 | 2,924 | 456 | 789 | 7,892 | 129 | 25,895 | 129,884 |
| Sagadahoc | 50 | 3,117 | 270 | 0 | 1 | 3,438 | 12 | 41 | 130 | 2 | 26 | 179 | 3 | 3 | 0 | 396 | 3,834 |
| Somerset | 33,222 | 14,035 | 4,336 | 1,057 | 63 | 52,713 | 1,433 | 4,998 | 1,541 | 4,007 | 2,362 | 601 | 1,171 | 2,125 | 18 | 18,256 | 70,969 |
| Waldo | 2,001 | 9,745 | 1,597 | 855 | 5 | 14,203 | 80 | 2,921 | 91 | 195 | 90 | 541 | 261 | 18 | 37 | 4,234 | 18,437 |
| Washington | 36,163 | 7,011 | 18,960 | 798 | 77 | 63,009 | 33 | 1,090 | 128 | 115 | 43 | 26 | 117 | 1,751 | 8 | 3,311 | 66,320 |
| York | 10 | 17,475 | 1,057 | 0 | 0 | 18,542 | 87 | 63 | 18 | 46 | 122 | 173 | 18 | 0 | 58 | 585 | 19,127 |
| Maine wood processed: | 404,172 | 243,245 | 113,424 | 27,768 | 2,465 | 791,074 | 11,031 | 38,337 | 14,363 | 30,483 | 18,022 | 9,274 | 8,489 | 113,013 | 5,524 | 248,536 | 1,039,610 |
| Exported From Maine Without Processing: | 306,766 | 15,746 | 9,036 | 8,419 | 3,486 | 343,453 | 859 | 12,955 | 13,090 | 19,265 | 9,174 | 15,337 | 2,589 | 8,083 | 10,823 | 92,175 | 435,628 |
| Total Harvested from Maine forests : | 710,938 | 258,991 | 122,460 | 36,187 | 5,951 | 1,134,527 | 11,890 | 51,292 | 27,453 | 49,748 | 27,196 | 24,611 | 11,078 | 121,096 | 16,347 | 340,711 | 1,475,238 |
| Imported from Out- of-State: | 61,197 | 35,191 | 10,318 | 211 | 745 | 107,662 | 1,631 | 10,119 | 5,013 | 6,622 | 2,688 | 1,177 | 1,358 | 69,459 | 6,390 | 104,457 | 212,119 |
| Total Processed by Maine Forest Products Industry : | 465,369 | 278,436 | 123,742 | 27,979 | 3,210 | 898,736 | 12,662 | 48,456 | 19,376 | 37,105 | 20,710 | 10,451 | 9,847 | 182,472 | 11,914 | 352,993 | 1,251,729 |

Notes:

1. Sawlogs include logs, veneer, boltwood, studwood, palletwood, etc. Cords converted to MBF@ 2 cords = 1 MBF.
2. Other Softwood includes larch, pitch pine, and a few others.

Pulpwood

Wood flow in Maine as Reported to the Maine Forest Service (Converted to Cords)

| County | Spruce and Fir | White and Red Pine | Hemlock | Cedar | Other Softwood | Total Softwood | Aspen | Other Hardwood | Total Hardwood | Total Pulpwood |
|-----------------------------------------------------------|----------------|--------------------|----------------|---------------|----------------|------------------|----------------|------------------|------------------|------------------|
| Androscoggin | 2,620 | 16,748 | 4,332 | 0 | 506 | 24,206 | 4,781 | 18,463 | 23,244 | 47,450 |
| Aroostook | 75,834 | 1,414 | 16,388 | 0 | 12,125 | 105,761 | 7,232 | 198,064 | 205,296 | 311,057 |
| Cumberland | 643 | 32,592 | 7,933 | 0 | 1,441 | 42,609 | 2,233 | 20,323 | 22,556 | 65,165 |
| Franklin | 51,938 | 9,256 | 15,283 | 0 | 73 | 76,550 | 21,841 | 153,763 | 175,604 | 252,154 |
| Hancock | 47,699 | 5,486 | 4,559 | 0 | 759 | 58,503 | 13,684 | 90,773 | 104,457 | 162,960 |
| Kennebec | 10,015 | 19,527 | 42,242 | 0 | 203 | 71,987 | 10,791 | 45,473 | 56,264 | 128,251 |
| Knox | 16,854 | 4,044 | 2,050 | 0 | 21 | 22,969 | 2,325 | 9,811 | 12,136 | 35,105 |
| Lincoln | 12,020 | 9,820 | 1,684 | 0 | 20 | 23,544 | 1,611 | 6,920 | 8,531 | 32,075 |
| Oxford | 47,612 | 36,268 | 29,798 | 0 | 3,950 | 117,628 | 21,072 | 135,026 | 156,098 | 273,726 |
| Penobscot | 97,235 | 19,845 | 76,770 | 0 | 3,897 | 197,747 | 33,894 | 277,006 | 310,900 | 508,647 |
| Piscataquis | 77,637 | 5,000 | 13,056 | 0 | 917 | 96,610 | 23,801 | 232,614 | 256,415 | 353,025 |
| Sagadahoc | 1,795 | 3,900 | 1,716 | 0 | 15 | 7,426 | 1,069 | 2,897 | 3,966 | 11,392 |
| Somerset | 93,709 | 9,691 | 23,568 | 0 | 1,454 | 128,422 | 28,145 | 247,435 | 275,580 | 404,002 |
| Waldo | 31,488 | 6,516 | 5,893 | 0 | 688 | 44,585 | 12,093 | 41,706 | 53,799 | 98,384 |
| Washington | 25,272 | 9,486 | 3,991 | 0 | 1,354 | 40,103 | 15,253 | 93,396 | 108,649 | 148,752 |
| York | 340 | 34,657 | 5,303 | 0 | 4,126 | 44,426 | 1,276 | 17,865 | 19,141 | 63,567 |
| Maine wood processed: | 592,711 | 224,250 | 254,566 | 0 | 31,549 | 1,103,076 | 201,101 | 1,591,535 | 1,792,636 | 2,895,712 |
| Exported From Maine Without Processing: | 84,820 | 29,665 | 5,544 | 7,048 | 7,634 | 134,711 | 7,324 | 72,287 | 79,611 | 214,322 |
| Total Harvested from Maine forests : | 677,531 | 253,915 | 260,110 | 7,048 | 39,183 | 1,237,787 | 208,425 | 1,663,822 | 1,872,247 | 3,110,034 |
| Imported from Out-of-State: | 163,076 | 84,190 | 102,827 | 11,183 | 6,410 | 367,686 | 31,366 | 425,979 | 457,345 | 825,031 |
| Total Processed by Maine Forest Products Industry: | 755,787 | 308,440 | 357,393 | 11,183 | 37,959 | 1,470,762 | 232,467 | 2,017,514 | 2,249,981 | 3,720,743 |

Notes:

1. Other Softwood is comprised of bole chips of which specific species information was not collected.
2. Aspen volumes are based upon pure loads.
3. "Other hardwood" is comprised of all hardwood species except aspen sold in pure loads.

Mill Residues: 1,694,789 tons of mill residues were obtained from Maine sawmills for manufacture into pulp. These figures are not included in the pulpwood volumes presented elsewhere in this report. This does not represent a drain on the forest resource, but rather, a further utilization of wood already included in the tally.

Biomass Chips

Wood flow in Maine as Reported to the Maine Forest Service (in Green Tons)

| County | Biomass Chips |
|-----------------------------------------------------------|------------------|
| Androscoggin | 14,962 |
| Aroostook | 254,571 |
| Cumberland | 54,731 |
| Franklin | 166,603 |
| Hancock | 35,231 |
| Kennebec | 16,011 |
| Knox | 5,978 |
| Lincoln | 5,932 |
| Oxford | 16,774 |
| Penobscot | 62,301 |
| Piscataquis | 95,393 |
| Sagadahoc | 12,466 |
| Somerset | 284,955 |
| Waldo | 22,370 |
| Washington | 14,028 |
| York | 71,338 |
| Maine wood processed: | 1,133,644 |
| Exported From Maine Without Processing: | 27,424 |
| Total Harvested from Maine Forests: | 1,161,068 |
| Imported from Out-of-State: | 700,069 |
| Total Processed by Maine Forest Products Industry: | 1,833,713 |

Biomass Chips are produced in the woods using whole trees, stem or bole, branches, and top. These chips usually go to wood-to-energy facilities. They are also used in sludge composting, playground padding, and mulch.

Wood Imports and Exports

**Origins and Destinations
To and From the State of Maine**

| <u>Import Origins</u> | <u>Export Destinations</u> |
|------------------------------|-----------------------------------|
| Connecticut | Connecticut |
| Massachusetts | Indiana |
| New Hampshire | Kentucky |
| New York | Massachusetts |
| Rhode Island | Michigan |
| Vermont | New Hampshire |
| | New York |
| <u><i>Canada</i></u> | Oregon |
| New Brunswick | Vermont |
| Nova Scotia | Wisconsin |
| Ontario | |
| Prince Edward Island | <u><i>Canada</i></u> |
| Quebec | New Brunswick |
| | Nova Scotia |
| | Ontario |
| | Quebec |
| | Germany |
| | Italy |

Summary:

Wood flow in Maine as Reported to the Maine Forest Service for 1998

| <u>Product</u> | <u>Harvest, Export, Import, Processed by Maine Forest Products Industries</u> | | <u>Total Volume in 1998</u> | <u>Total Volume Converted to cords</u> |
|--------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------|---------------------------------|------------------------------------------------|
| Sawlogs (in MBF) 1 MBF = 1,000 board feet | <i>a</i> | Maine wood processed | 1,039,610 | 2,079,220 |
| | <i>b</i> | Exported from Maine without processing | 435,628 | 871,256 |
| | <i>c</i> | Total harvested from Maine forests (a+b=c) | 1,475,238 | 2,950,476 |
| | <i>d</i> | Imported from outside Maine | 212,119 | 424,238 |
| | <i>e</i> | Total processed by Maine Forest Products Industry (a+d=e) | 1,251,729 | 2,503,458 |
| Pulpwood (in cords) | <i>a</i> | Maine wood processed | 2,895,712 | 2,895,712 |
| | <i>b</i> | Exported from Maine without processing | 214,322 | 214,322 |
| | <i>c</i> | Total harvested from Maine forests (a+b=c) | 3,110,034 | 3,110,034 |
| | <i>d</i> | Imported from outside Maine | 825,031 | 825,031 |
| | <i>e</i> | Total processed by Maine Forest Products Industry (a+d=e) | 3,720,743 | 3,720,743 |
| Biomass Chips (in green tons) | <i>a</i> | Maine wood processed | 1,133,644 | 453,458 |
| | <i>b</i> | Exported from Maine without processing | 27,424 | 10,970 |
| | <i>c</i> | Total harvested from Maine forests (a+b=c) | 1,161,068 | 464,427 |
| | <i>d</i> | Imported from outside Maine | 700,069 | 280,028 |
| | <i>e</i> | Total processed by Maine Forest Products Industry (a+d=e) | 1,833,713 | 733,485 |
| Totals | <i>a</i> | Maine wood processed | | 5,428,390 |
| | <i>b</i> | Exported from Maine without processing | | 1,096,548 |
| | <i>c</i> | Total harvested from Maine forests (a+b=c) | | 6,524,937 |
| | <i>d</i> | Imported from outside Maine | | 1,529,297 |
| | <i>e</i> | Total processed by Maine Forest Products Industry (a+d=e) | | 6,957,686 |

Note on conversions: For Sawlogs: 1 mbf = 2 cords

For Biomass Chips: 1 cords = 2.5 green tons

Summary:

Wood flow in Maine as Reported to the Maine Forest Service for 1998

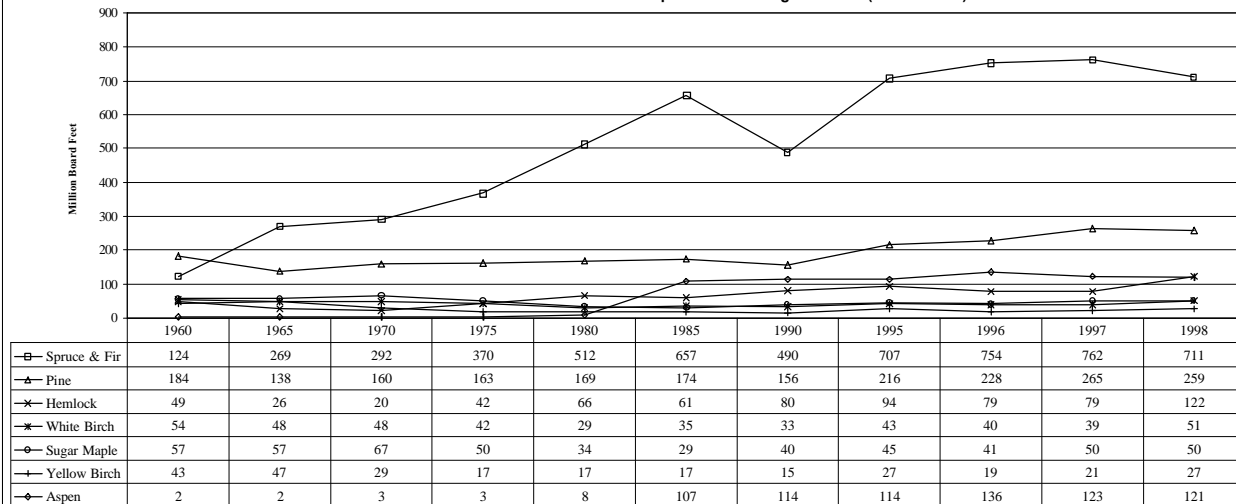
Wood Harvesting Trends (1960-1998)

The Maine Forest Service has been collecting data on volume of wood harvested since the late 1940's. The following three charts illustrate wood harvesting trends over the past 38 years.

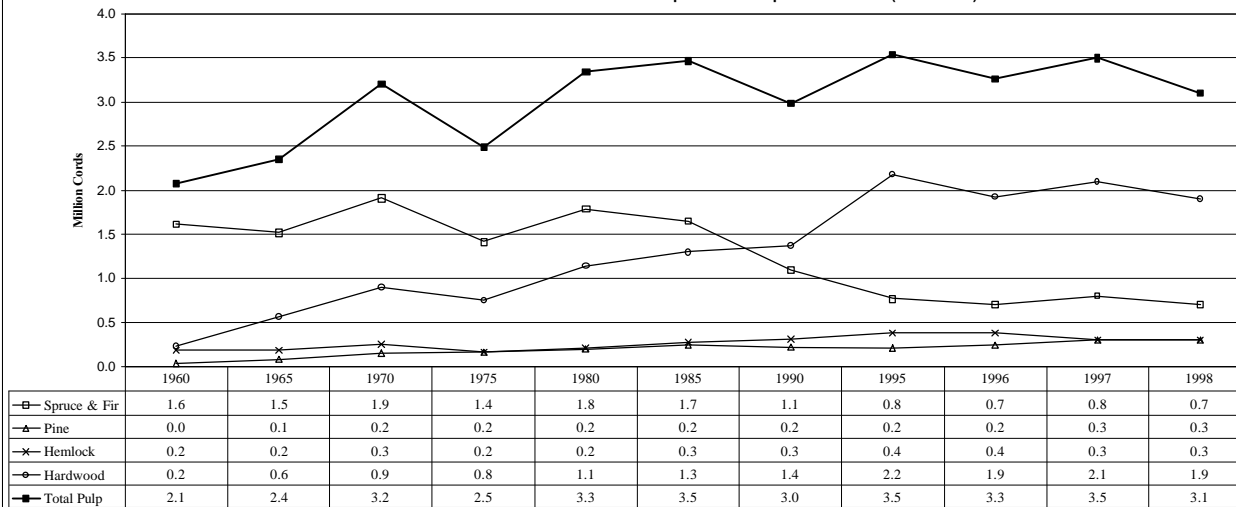
The two graphs to the right show the harvest volumes for selected species for sawlogs and pulpwood. These volumes include exported volumes.



Harvest Levels of Selected Species for Sawlogs in Maine (1960 to 1998)



Harvest Levels of Selected Species for Pulpwood in Maine (1960 -1998)



Summary:

Wood flow in Maine as Reported to the Maine Forest Service for 1998

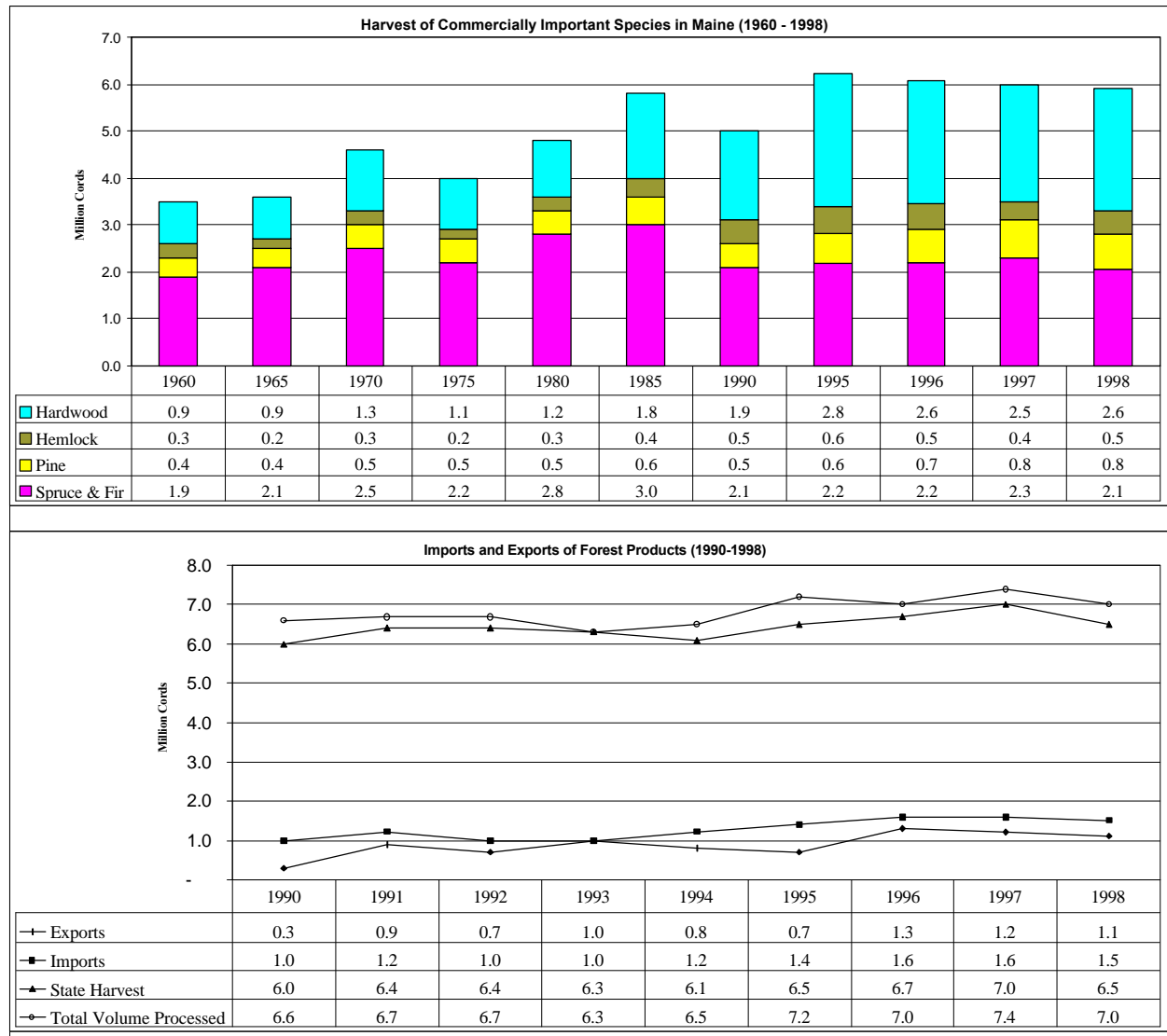
Wood Harvesting Trends (1960-1998)

The graph to the right shows the volumes for commercially important species.



Import and Export Trends (1990-1998)

The graph to the right shows the volumes of forest products being exported from Maine, imported into Maine, and processed within Maine.



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